ABSTRACTS
For 2 years now, Air France Industries KLM Engineering & Maintenance has been carrying out ultrasound non-destructive testing on Stage 8-10 Spools. This is a core part of GE90-9 engines and is a component of the High-Pressure Compressor module. The ultrasound inspections carried out in our hangars or on site for our customers means we can identify any signs of cracks that can lead to the loss of the engine in the event of part failure. The operation is extremely delicate and one of the most difficult to perform. The On-Wing method consists in using an ultrasound probe directly on the wing-mounted engine and significantly cuts TAT. To carry out an ultrasound inspection, the HPC module must be accessible. The access space is very limited and calls for precise movements. This operation requires a degree of dexterity: the technician must be able to place the probe in direct contact with the Stage 8-10 Spool through a borescope hole using a facing camera. In addition, once the probe has been positioned, the inspectors must make sure that the camera probe does not interfere with the Stage 8 compressor blades during the engine core rotation. By manually moving the accessory case, the engine can be rotated to carry out this type of inspection. The probe is very sensitive and fragile and must be handled with extreme care during insertion. Technician are like men with the gold fingers, their expertise ensures high-quality procedures. Inspection of the Stage 8 Web guarantees the detection of any signs likely to emerge in this critical area of the part. Any results outside the OEM’s acceptance criteria will require engine removal for shop inspection and possible repairs.